

REMARKS

Claims 1-10, 13-16, and 18 are currently pending. Claims 1, 2, and 15 have been amended for clarification. Claim 18 has been amended so as not to depend from canceled claim 17. All claim amendments are self-supporting and/or supported by the originally filed application. It is respectfully submitted that no new matter has been added.

Claim Objections

The Patent Office objected to claim 18 for its dependence on canceled claim 17. Claim 18 has been amended to depend from claim 15. Applicant respectfully requests that the Patent Office remove its objection to claim 17.

Claim Rejections under 35 U.S.C. 102(b)

The Patent Office rejected claims 1-6 and 16 under 35 U.S.C. 102(b) as being anticipated by Chheda, U.S. Patent No. 5,946,621. (The Patent Office did not list claim 15 in the header of the 102(b) rejection, but appears to have meant to include claim 15 as being anticipated.)

Applicant has amended independent claims 1, 2, 15, and 18. Applicant does not admit implicitly or explicitly that such amendment was necessitated by the prior art of record.

A claim is anticipated when each and every non-inherent claim limitation is disclosed, in general, by a single reference. (See MPEP 2131)

The claimed invention and Chheda et al. (US Patent 5,946,621) provide totally different solutions for totally different problems.

Applicant's invention relates to hard handover in a non-cellular system, while Chheda relates to soft handover and its solution uses specific terminal and cell specific tables called "active set", "candidate set", and "neighbor set" (cell specific). Those teachings are not applicable to hard handovers in non cellular systems.

In the node selecting method according to the Applicant's invention, the number of nodes present within each overlapping region between a communication zone of the mobile node and communication zones of each of the specified nodes is counted. The nodes are arranged uniformly dispersedly and regardless of the strength of signals. On the other hand, Chheda discloses that the neighbor set comprises the pilots that could be received with sufficient strength

to enable successful communication (column 2, lines 5 8-59). This means that the neighbor sets depend on the strength of the pilot signals.

Thus, Chheda does not anticipate claims 1-10, 13-16, and 18.

Claim Rejections under 35 U.S.C. 103(a)

Applicant has amended independent claims 1, 2, 15, and 18. Applicant does not admit implicitly or explicitly that such amendment was necessitated by the prior art of record.

Given the difference of hard and soft handover between the claimed invention and Chheda, as discussed above, Chheda, as a base reference, cannot make any of claims 1-10, 13-16, and 18 obvious.

According to an embodiment of the Applicant's invention, there are no base stations, and each of the mobile nodes communicates with each other nodes directly without employing a base station or a base node, so that there is one type of node only, that is, a mobile node. An aspect of an embodiment of Applicant's invention is that the number of nodes present within each overlapping region is counted without using a received signal strength indicator.

The Patent Office rejected claim 7 as being unpatentable over Chheda, in view of Rohani, U.S. Patent No. 6,195,342.

The section of Rohani, column 5, lines 34-46, cited by the Patent Office refer to discloses a frequency that the Extended Hand-Off Message is transmitted by the cell is determined by the traveling speed of the mobile station. Claim 7 depends from claim 5 which recites that the mobile station performs specifying, counting and selecting at predetermined periods. Rohani, in contrast, provides a teaching for transmitting a message from the cell at a frequency in accordance with the speed of the mobile station and not for specifying, counting, and selecting by the mobile station.

Thus, the combination of Chheda in view of Rohani does not make obvious claim 7.

The Patent Office rejected claim 8 as being unpatentable over Chheda, in view of Gross, U.S. Patent No. 6,856,803.

Claim 8 recites "wherein the predetermined period is changed in accordance with an arrangement density of the specified nodes." Claim 5 which recites that the mobile station performs specifying, counting and selecting at predetermined periods. The cited passage of

Gross, column 6, line 60, through column 7, line 8, discloses activities of the operations and maintenance center (OMC) and “the prioritization of time insensitive hand-off candidates based on subscriber density.” Gross does not discuss a predetermined period at which the mobile station performs specifying, counting, and selected. It is not seen how Chheda in view of Gross would make obvious claim 8.

Thus, claim 8 is allowable over the purported combination of Chheda and Gross.

The Patent Office rejected claims 9, 10, and 18 as being unpatentable over Chheda, in view of Haas, U.S. Patent No. 6,304,556.

The Patent Office asserted that Chheda does not disclose the specified nodes are mobile nodes and that Haas in column 4, lines 47-56 remedies this deficiency.

Haas in column 4, lines 47-56, discloses as follows:

The present invention overcomes the drawbacks of previous network protocols through provision of two new protocols, one for routing and one for mobility management, both of which are particularly well-suited for use within ad-hoc networks. The routing protocol is a proactive-reactive hybrid routing protocol-called the Zone Routing Protocol (ZRP)- that allows efficient and fast route discovery in the ad-hoc network communication environment (i.e., large geographical network size, large number of nodes, fast nodal movement, and frequent topological changes).

Haas does disclose finding a route from a source node to a destination node as illustrated in Figure 4. Haas in column 8, line 37, through column 9, line 18, discloses two methods: a cluster head method and a method of distributed mobility management. In the cluster head method, routing occurs from the source node to its cluster head to the destination cluster head to the destination node. In the distributed mobility management scheme, certain nodes in the network assume the mobility management function. This is quite different from Applicant’s claimed invention in which numbers of nodes in the communication zones of the mobile node and its neighbor nodes are counted to determine a next node for communication.

Accordingly, claims 9, 10, and 18 are allowable over Anderson in view of Cohen and further in view of Haas.

The Patent Office rejected claims 13 and 14 as being unpatentable over Chheda in view of Agrawala, U.S. Published Patent Application No. 2005/0020275.

The Patent Office asserted that Chheda does not teach the specified nodes are uniformly dispersedly arranged and that Agrawala is alleged to teach this difference in paragraph 0031.

Agrawala, in paragraph 0031, discloses as follows:

FIG. 1 illustrates an embodiment of a wireless multinodal communications system 100 of the present invention. System 100 includes a widely distributed network of wireless communications nodes 102a-102n (collectively referred to herein as "communications nodes 102"). As discussed above, system 100 can be implemented in a variety of mobile and/or non-mobile wireless networks, including sensor-based applications. Additionally, communications nodes 102 are positioned in three-dimensional space.

Agrawala discloses nodes transmitting and receiving measurement messages which are exchanged with other nodes. Agrawala does not disclose numbers of nodes in the communication zones of the mobile node and its neighbor nodes are counted to determine a next node for communication.

It is respectfully submitted that the rejections of claims 1-10, 13-16, and 18 under 35 U.S.C. 102(b) based on Chheda or under 35 U.S.C. 103(a) based on Chheda in combination with Rohani, Gross, Haas, and/or Agrawala, have been overcome, and it is respectfully requested that the Patent Office reconsider and remove the rejections of these claims. The Patent Office is respectfully requested to favorable consider and allow all of the pending claims 1-10, 13-16, and 18 as now presented for examination. An early notification of the allowability of claims 1-10, 13-16, and 18 is earnestly solicited.

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